EXHIBIT M

SUMMARY OF INTERVIEWS

EXHIBIT M
SUMMARY OF INTERVIEWS

During the investigation into the cause of the agent release from the Tooele Chemical Agent Disposal Facility (TOCDF) Common Stack, 8-9 May 2000, a number of personnel were interviewed to gain insight into the events. The following summarizes the discussions with these personnel:

Personnel Interviewed:

Mike Greene
Mike Twitchell
Monica Lozano
Matt Elwell
Ducie (Chris) Chads
Sam Guello
Randy Roten
Mike Medina
Jeff Jolley
Steve O'Neill
Kemla Siddoway
Kent Wilson
Stan Garcia
Dave Lee
Corey Christiansen
Kory Clark

Summary:

Two people made a Demilitarization Protective Ensemble (DPE) entry the evening of 8 May 2000 to clean the Deactivation Furnace System (DFS) feed chute from Explosive Containment Room (ECR) B in order to free a sticking lower tipping valve, to clean the Agent Quantification System (AQS) strainer, and, if time allowed, to perform remaining preventive maintenance on the Rocket Shear Machine (RSM). They had previously made about 150-200 entries each. Both had previously performed chute cleanouts, the most recent being about one month previously.

The entry began with a pre-entry meeting which included a discussion of the Non-Normal Procedure (NNOP) that would be used to accomplish chute cleaning. When they checked the feed chute, the lower tipping valve was no longer stuck. The chute seemed clean, but there was some material built up on the sides and in the lower corners of the rectangular duct. The material resembled damp flour. There was no water available to perform the cleaning operation at first; it required changing a ball valve near the hose reel outside the ECR. The entrants attempted to use the droplight in the ECR to get a better view of the area to be cleaned. The droplight did not work and had to be replaced. A

hose clamp on the water line had to be replaced. Once these activities were completed, water was sprayed into the chute from the water lance for about 90 seconds (about 20 gallons was estimated). The lance is a 10 ft. long piece of about 1" pipe with the open end slightly flattened.

The entrants left the ECR while the DFS operator opened both gates in the feed chute. When they looked into the feed chute, it was basically clean; some glowing embers were visible near the bottom of the chute; one entrant speculated that the embers could have been material that came off the tipping valve. One entrant recalled seeing water from the chute sprays.

The DPE entrants said that the chute cleanout operation was being conducted according to a NNOP, but they couldn't recall the number. They said that the DPE controller that evening was pretty thorough in walking them through the procedure. They felt the procedure was accurate and adequate for their needs. They know there is a process for suggesting changes to regular procedures, but have not ever suggested any; they did not know if this kind of process exists for NNOPs. There was no special training provided to them for this NNOP, but they discussed it at the pre-entry meeting. There is no read and sign, qualification, certification process for NNOPs like there is for regular procedures.

When the strainer was changed, about 1 lb. of material (fiberglass contaminated with agent) was removed. This material was placed on the gate to be cycled into the DFS.

The entrants did not think this entry was unusual in any way. This evening was their shift's fourth consecutive.

The Plant Shift Manager (PSM) felt that the beginning of the shift was very normal. He was aware of the DFS chute maintenance activities to be performed and was coordinating with the Unpack Area to ensure that the M56 warheads were being uploaded into the shipping and firing tubes for processing through RSM-102.

During DPE entries, one Control Room Operator (CRO) is dedicated to controlling the entry – assuring the Standing Operating Procedure (SOP) is followed, monitoring the activity, serving as the control room liaison, etc. The CRO fulfilling this responsibility had been a certified CRO for four years and is currently certified to operate the Liquid Incinerators, the DFS, and the Metal Parts Furnace, and their associated Pollution Abatement Systems, all utility systems, and the Bulk Drain System. He is the most experienced DFS CRO on A-Team. The entry controller attended the pre-entry brief; he had controlled entries for chute cleanout before. Upon returning to the control room, he briefed the DFS CRO (the individual who was operating the DFS) and provided a copy of the NNOP to the DFS CRO. The Acting Control Room Supervisor (SCRO) had about eight years of experience in the TOCDF control room; the PSM had been employed at TOCDF for about two years and was in the current job for about five months.

The entry CRO felt that the NNOP was not very specific, was not very detailed, and thinks it was not sufficiently adequate and accurate. At the pre-entry meeting, he noted an error with it having to do with a closed circuit television camera. He said that there is no specific training provided for use of a NNOP and there is no sign-off for NNOPs; copies were provided at the pre-entry meeting. He recalls the NNOP was DFS-011, but can't recall whether it was DFS-011–01 or not.

The entry CRO operator thinks that people using this procedure have to read into it to get it right. Following it specifically will cause problems, especially if both gates are open at the same time. Having both gates open at once isn't so much a personnel hazard to the entrants, since the flows have been adjusted to assure flow is into the furnace from the room, but it presents a plant problem. The entry CRO (who has acted as the DFS CRO during similar operations) feels the furnace needs to be operated in manual for an operation of this type, since the automatic control won't work, and this isn't noted in the procedure.

The entry CRO had responsibility to ensure the proper execution of the NNOP and to ensure proper communication between the entrants and the CON, especially with the DFS CRO. At one point during the entry, the entry CRO noticed that, with the tipping valve and the slide gate both open, the DFS AFB pressure was indicating -7.0 "water column (WC). The entry CRO notified the DFS CRO of the excessive negative pressure and warned the DFS CRO to be careful not to exceed the current limits on the Identification (ID) fan. The DFS CRO was responsible for maintaining pressures and flows in the DFS.

The entry CRO indicated that when both the tipping valve and the slide gate were closed at the end of the entry, the furnace system was drawn to an even more excessively negative pressure.

With the entry complete, the entry CRO was able to assist the DFS CRO with recovery activities; the SCRO had determined that since there was no (recognized) source of agent in the DFS, this was an opportune time for the DFS CRO to gain experience on procedures to recover the DFS from upset conditions. (The PSM agreed with the SCRO to allow the inexperienced DFS CRO to continue with these recovery procedures.) They diagnosed the flue gas flow meter failure and requested that a Instrumentation Technicians (ITs) be called in to troubleshoot. The ITs were able to get the flue gas flow meter to begin reading again, intermittently, and 24-FSLL-430 (low exhaust flow) cleared. The DFS CRO was able to purge the system and begin to re-light one afterburner burner.

The common stack Automatic Continuous Air Monitoring System (ACAMS) 701 C and 701 A alarmed during this purge. Control Room personnel believed that the DFS was free of agent because they had not processed any rockets or waste for several hours. The alarms were assumed to be due to an interferent, as stack alarms had always been in the past.

During the light-off procedure, 24-FSLL-430 re-activated and locked out the burner and dropped system purge.

When ACAMS 702 alarmed, the decision was made by Acting SCRO to bottle up the DFS.

The control room made the decision to try to re-establish purge and get one afterburner lit to ensure that the DFS afterburner had sufficient heat to maintain destruction efficiency. The PSM indicated that the SCRO had requested a Temporary Change to install a jumper to bypass 24-FSLL-430. The PSM approved installation of the jumper once all of the required signatures had been obtained. ITs were instructed to jumper around 24-FSLL-430 so that a re-light could be attempted.

The second stack ACAMS alarm and DFS duct ACAMS alarm activated during the second purge and re-light attempt. The burner attempted to light, but a "3 to P" interlock locked out the burner again. The control room bottled up the DFS a second time.

Monitoring personnel stated that the ACAMS appeared to have functioned properly and that the Depot Area Air Monitoring System (DAAMS) data very definitely indicated the presence of GB. They identified a mislabeling problem with the confirmatory DAAMS that may have contributed to the initial confusion in the control room regarding the source of agent, but this error was quickly rectified. They also noted that the B tubes for all perimeter monitoring stations had been desorbed without analysis, since no A tube had indicated positive for agent.

A safety engineer with a little more than two years experience at TOCDF was involved in the hazard analysis process for the NNOP which was being executed to clean the DFS Feed Chute. His time at TOCDF has basically all been spent in the general area of performing hazard analyses. Before coming to TOCDF he had worked at a number of chemical process plants, including a sulfuric acid plant, a chlorine plant, a caustic plant, an oil refinery, etc.

The safety engineer said there is a Project Regulatory Procedure (PRP) which describes the process of assessing the risks for NNOPs, which is described in PRP-MG-010. The process is applied to short fuze, test program types of activities. He thinks that plugging of the feed chutes/hanging of the tipping valve is a fairly typical problem of the feed chutes.

The safety engineer stated that the hazard evaluation for DFS-011-01 didn't address agent hazards because it had been written for an activity to be conducted in ECR A. Agent levels in ECR A are very low, since the item which has been processed through that ECR is the fuzed and burstered M360 projectile. The operation in the ECR doesn't access the agent cavity of these rounds, and agent has not been detected in this room. Because of this, the possibility for agent exposure was considered minimal.

The safety engineer described the purpose of a Risk Assessment Code (RAC), as he understands it, is that it looks at the worst case scenario and is an assessment of what circumstances could occur. Once mitigating actions have been implemented, a second RAC is assigned to reflect that fact. He doesn't really know why RACs aren't assigned to risks identified in the hazard evaluation of NNOPs, but noted that the PRP doesn't require it. NNOPs are really only intended to be quick and dirty, and there is a presumption that hazards with a high severity are not involved.

The safety engineer has been involved in the validation of SOPs in the past, which has often involved operators performing with simulant munitions. No similar process is usually applied to NNOPs, which are normally fairly simple. He felt that it usually takes a couple of days from beginning to prepare an NNOP until it is fully approved for use. An exception to this is the NNOP for the Munitions Demilitarization Building flow straightener removal; the process actually took an extensive amount of time to develop. The safety engineer doesn't think that operator input is necessarily or formally obtained during development of NNOPs. The safety engineer feels that the hazard analysis/risk assessment obviously depends on the procedure being used as it was written/assumed.

The safety engineer thinks TOCDF is the safest place he's worked, and that the evaluations conducted are the most rigorous he's aware of. He feels that the operators are well-trained.

The Acting Safety Manager has been employed at TOCDF since 1 May 1994. His position at that time was Industrial Hygiene Program Administrator. He has attended the University of Southern California System Safety Institute and various seminars, etc., on the topic. The job at TOCDF is the first one in which he's implemented the full scope of system safety. (Previous jobs involved safety programs for some military services.)

The Acting Safety Manager understands that the purpose of a RAC is to evaluate/predict the risk involved in an operation so as to allocate resources to mitigating the highest risks. He noted that hazard analyses performed by the contractor to support operations don't address hazards associated with manual (vs. automatic) control, however. The Acting Safety Manager thinks that the reason RACs aren't assigned to hazards identified in NNOPs is that the activity has already been determined to be acceptable. A RAC could be used to determine the need for a more in-depth analysis, though. The process for analyzing the hazards posed by a NNOP is largely informal and is more like a Job Safety Analysis than the Job Hazard Analysis required by the Program Manager for Chemical Demilitarization or the Process Hazard Analysis required by the Occupational Safety and Health Administration.

The Acting Safety Manager feels that the safety program at TOCDF works in general, and is challenging since it must deal with different hazards on a daily basis. He has had some difficulty influencing the spending of money, and feels that a RAC system is a good system to help with this. It doesn't address non-safety issues, though, so production,

environmental, security issues, etc. aren't assessed or necessarily perceived in the same fashion. He has sensed some resistance to some of his recommendations due to the effect these recommendations would have on the bottom line.

The Acting Safety Manager feels that TOCDF operators are very well educated, but are under-educated with respect to the expectations placed on them.